

B. AMENDMENTS TO THE CLAIMS

Claims 1-3 have been cancelled without prejudice.

4. (Twice amended) A method for treating a patient in need of megakaryocytes, comprising administering to the patient isolated and ~~purified~~ enriched human mesenchymal stem cells in an amount effective to produce megakaryocytes, wherein said mesenchymal stem cells are allogeneic or autologous to said patient.

5. (Twice amended) A method for treating a patient in need of megakaryocytes comprising administering to the patient isolated and ~~purified~~ enriched human mesenchymal stem cells and CD34+ cells in an amount effective to produce megakaryocytes, wherein said mesenchymal stem cells are allogeneic or autologous to said patient.

6. (Withdrawn) A method of producing genetically modified megakaryocytes, comprising transducing hematopoietic progenitor cells with exogenous genetic material; and culturing the transduced hematopoietic cells in the presence of mesenchymal stem cells to induce differentiation of the transduced hematopoietic cells into megakaryocytes which contain the exogenous genetic material.

7. (Withdrawn) A composition of genetically modified megakaryocytes.

8. (Withdrawn) A composition of genetically modified platelets.